

2. Unit Operation

2.1. Initial Hardware Setup

2.1.1 Using the UltraLite for the First Time

Note: Plug the AC Adapter into an AC wall outlet, then plug the AC Adapter into the "DC IN" jack on the UltraLite. This starts the process to charge the batteries.

1. Turn ON the UltraLite by depressing the "rocker" switch located on the upper righthand side of the unit. After a Memory Test, MS-DOS Manager is automatically loaded.

To bypass the Memory Test, press the **SPACE BAR**.

If the screen remains too dark or too light, adjust the CONTRAST slide switch, located below the screen, until an image appears.

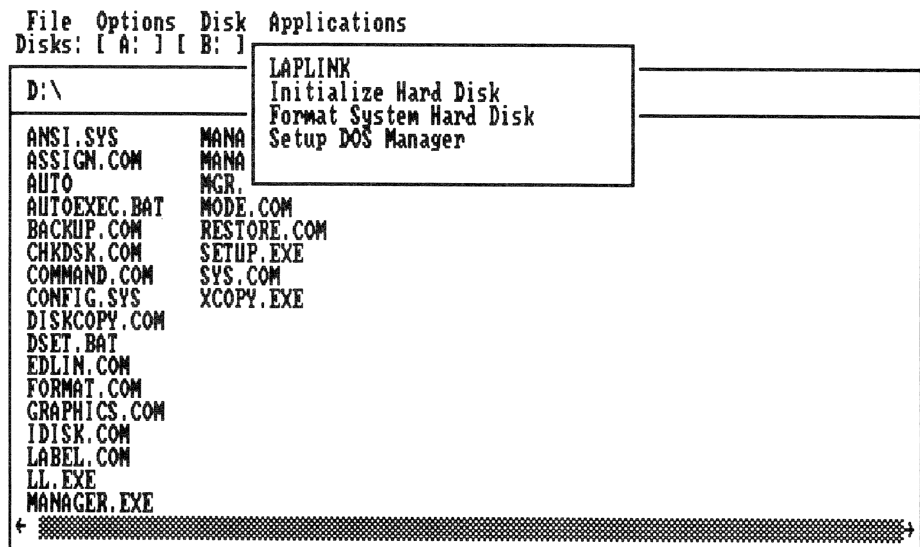
If the Power On Test reports an error:

A. Turn the UltraLite OFF.

B. Repeat the steps in setting up the UltraLite to ensure the CONFIG switches are set properly.

C. Turn the UltraLite ON and OFF three or four more times. If the error condition continues, see the Troubleshooting chapter in this manual.

2. Adjust the screen contrast for best viewing of the Main Menu.



3. The Applications Menu of MS-DOS Manager is highlighted in the center of the screen. The following four programs appear in the menu:

- LAP-LINK
- Initialize Hard Disk
- Format System Hard Disk
- Setup DOS Manager

2.1.2 Formatting the Silicon Hard Disk

To properly setup the silicon hard disk, perform the following procedure:

1. To initialize the silicon hard disk, press the "I" key or press the DOWN ARROW key one time followed by pressing the ENTER key. The following message appears:

```
WARNING, ALL DATA ON NON-REMOVABLE DISK  
DRIVE C: WILL BE LOST!  
Proceed with initialize(Y/N)?
```

2. Press the "Y" key and then ENTER to begin initialization.
3. After approximately 30 seconds, initialization is completed, the message "Press any key to continue..." appears in the lower righthand corner of the screen.
4. Press any key to return to MS-DOS Manager. The initial MS-DOS Manager screen is displayed:

File	Options	Disk	Applications
Disks: [A:] [B:]			
D:\			LAPLINK
			Initialize Hard Disk
			Format System Hard Disk
			Setup DOS Manager
ANSI.SYS		MANA	
ASSIGN.COM		MANA	
AUTO		WCD	

5. Press the "F" key, or use the DOWN ARROW key to highlight "Format System Hard Disk", then press ENTER. The format message is displayed:

```
WARNING, ALL DATA ON NON-REMOVABLE DISK  
DRIVE C: WILL BE LOST!  
Proceed with Format (Y/N)?
```

6. Press "Y" and then the ENTER key to begin formatting. Once the Silicon Hard Disk is formatted, the UltraLite automatically returns to MS-DOS Manager:

File	Options	Disk	Applications
Disks: [A:] [B:]			
D:\			LAPLINK
			Initialize Hard Disk
			Format System Hard Disk
			Setup DOS Manager
ANSI.SYS		MANA	
ASSIGN.COM		MANA	
AUTO		MGR.	
AUTOEXEC.BAT		MODE.COM	
BACKUP.COM		RESTORE.COM	
CHKDSK.COM		SETUP.EXE	
COMMAND.COM		SYS.COM	
CONFIG.SYS		XCOPY.EXE	
DISKCOPY.COM			

7. Press the "S" key or use the DOWN ARROW key to highlight "SETUP DOS Manager", then press ENTER.

8. "SETUP DOS Manager" transfers certain necessary files to the Silicon Hard Disk.

Note: Because the Silicon Hard Disk transfers files much quicker than a normal disk drive, the copy messages displayed on the screen are listed too fast for the user to read them.

9. When the preparation of the Silicon Hard Disk is completed, the system automatically returns to the MS-DOS Manager. Press ESC to close the Applications Menu.

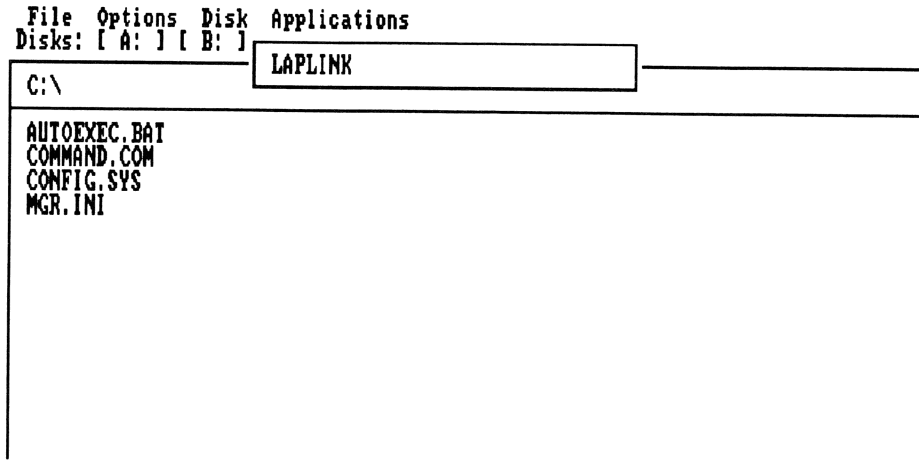
10. Simultaneously press CTRL and "C" to list the files listed on the C: drive (the Silicon Hard Disk).

File	Options	Disk	Applications
Disks: [A:] [B:] [C:] [D:]			
C:\			
AUTOEXEC.BAT			
COMMAND.COM			
CONFIG.SYS			
MGR.INI			

11. Simultaneously press CTRL-ALT-DEL to reboot the system. The UltraLite can now be booted from the Silicon Hard Disk (Drive C:).

12. If the UltraLite was not fully charged, do so now, or the contents of the Silicon Hard Disk may be lost.

Note: When the UltraLite is turned ON, the MS-DOS Manager Application Menu is displayed, offering LAP-LINK and any other applications that were added to the system.



2.1.3 Disk Drive Assignments

The MS-DOS operating system assigns a letter designation to every storage device on the system, treating them all as "disk drives" whether they are actual disk drives or not. MS-DOS Manager, lists four logical disk drives in its disk drive line:

- Drive A: External 3.5" Disk Drive
- Drive B: ROM or RAM Card
- Drive C: Silicon Hard Disk
- Drive D: System ROM (Initial Boot Drive)

External 3.5" Disk Drive

The 3.5" disk drive reads and writes standard MS-DOS disks at densities of 720 K and 1.44 MB. MS-DOS Manager allows 5.25" disk drives to be formatted at 360 K and 1.2 MB, but these disk drives are not currently available for the UltraLite.

DISKCOPY can be used to duplicate disks of the same type using the 3.5" drive, but **should never be used to copy files to or from the silicon hard disk, ROM, or RAM Cards.**

ROM and RAM Cards

An important point to remember about these cards is that in order to boot from a card, boot tracks must reside on them. Also, neither card effects the main system's memory. Programs are loaded from the RAM and ROM Cards and executed in the main system's memory.

Silicon Hard Disk

The Silicon Hard Disk is initialized through MS-DOS Manager. To properly setup the Silicon Hard Disk, follow the procedure in the section "Formatting the Silicon Hard Disk".

System ROM

The system ROM is the initial boot drive. It contains BIOS information and the UltraLite's version of MS-DOS 3.3. Also, DOS-Manager and LAP-LINK are contained in the system ROM.

2.1.4 CONFIG Switches

Under normal conditions, the CONFIG switches should never need to be changed. Before using the UltraLite, verify the switches are in the default positions (OFF).

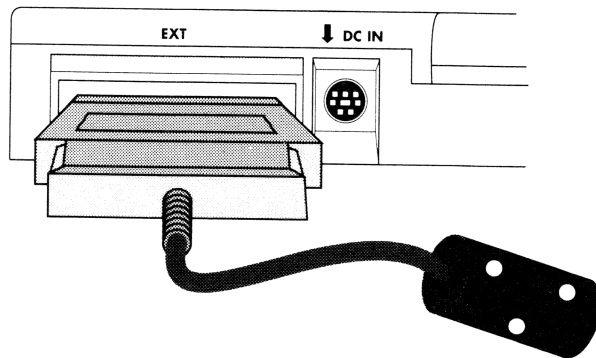
The bank of four switches is found on the right side of the computer, in the same recessed compartment as the Memory Card Slot. These four switches control, respectively:

- CPU Clock Speed
- A Built-in Test Program
- Screen Brightness
- Thickness of the characters displayed on the screen
(Single-Dot, Double-Dot)

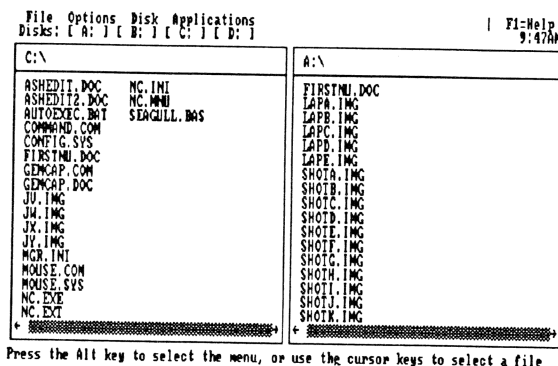
2.2. Using Peripherals

2.2.1 Attaching a Disk Drive

1. Turn the UltraLite OFF.
2. The floppy disk drive (FDD) is connected to the EXT slot on the rear panel of the UltraLite.



3. Lift the connector cover up to reveal the EXT port, then attach the end of the FDD cable with the core to the UltraLite.
4. Attach the other end to the FDD.
5. Connect the UltraLite AC Adapter to the unit. The external disk drive receives power from the UltraLite. For the external disk drive to function, the UltraLite must be operating from the AC Adapter.
6. Turn the UltraLite ON, but do not insert a diskette into the external disk drive until the MS-DOS Manager screen appears. (If the system finds a diskette in the external disk drive when booting, it will attempt to boot from the external drive.)



Once the system has booted up and the MS-DOS Manager screen appears, the external disk drive is ready to be accessed.

2.2.2 Attaching a Printer (Serial and Parallel)

The UltraLite can print to either a serial or parallel printer, under the control of an application program.

To print from the UltraLite the following items are required:

- UltraLite AC Adapter
- An application which supports the printer being used
- Appropriate printer driver
- Various cables

Using a Serial Printer

To use a serial printer with the UltraLite, also required is one of the following:

- The UltraLite serial port cable
- The optional UltraLite null modem cable adapter
- A serial printer cable (if not part of the printer)

1. Plug the null modem cable into the UltraLite's serial port. To match the printer's connector, a gender reversing (serial cable and adapter) connector is needed to act as a bridge between the 25-pin female connector on the null modem cable and the 25-pin female connector normally found on a serial device.

2. Connect the cable to the printer, following the manufacturer's instructions.

3. Serial communications require both the computer and printer to be operating at the same speed, parity, and data bits. Check the requirements of the serial printer, then set the UltraLite's serial port by using the MS-DOS MODE command.

Using the MODE Command

4. Press the ALT, "F", and "M" keys in sequence to leave MS-DOS Manager.

5. The UltraLite's serial port is always port 1 (COM1:), and the modem is port 2 (COM2:). The baud, parity, data bits, and stop bits are dependent upon the printer. For serial printers, the syntax of the MODE command is:

MODE COM1:baud, parity,data bits, stop bits,P

Baud can be: 110, 150, 300, 600, 1200, 2400, 4800, 9600, 19200

Parity can be even (E) or none (N)

Stop bits are 2 for 110 baud and 1 for all other baud rates.

"P" causes retry on "time out" errors and is required on many laser printers

Note: Many serial printers, such as the Hewlett-Packard LaserJet, operate at 9600 baud, no parity, 8 data bits, and 1 stop bit.

6. Using the parameters above as an example, at the DOS prompt the user would type:

MODE COM1:9600,N,8,1,P

Note: There are no spaces between the characters and the commas.

7. Some software programs automatically assume a parallel printer, called LPT1 under MS-DOS. If the software does not allow this setting to be changed, the printer output can be redirected to the serial port with a second MODE command:

MODE LPT1: = COM1:

This procedure can be automated in two ways:

A. These MODE commands can be entered into a batch file called SETPRN.BAT (or any name the user chooses) and executed under MS-DOS Manager prior to running the application.

B. Add entries in the MS-DOS Manager Applications Menu to do each step.

8. The printer is now set to print.

Using a Parallel Printer

To use a parallel printer with the UltraLite, one of the following is required:

- The external disk drive (the parallel port will be used)
- The parallel port adapter

1. Connect either the external disk drive or the parallel port adapter to the EXT port on the rear panel of the UltraLite.

2. Connect a standard parallel printer cable between the Parallel port and the printer.

3. Enter the application program and print.

Printing Directly From the UltraLite

The MS-DOS PRINT command does not exist in the UltraLite. To print small files directly on either a serial or parallel printer, use the MS-DOS commands COPY filename COM1: or COPY filename LPT:.

2.2.3 Using the Internal Modem

To use the UltraLite's built-in modem, a communications program is required. Virtually any commercial or public domain communications program can be used. Some of the popular communications programs are:

- Crosstalk
- Smart Comm
- Telcom
- ProComm
- QMODEM

These programs have a complete user applications interface and documentation. The interfaces differ widely, but all the programs must do some of the same tasks. The procedures below describe the generic tasks. Specific examples assume a program is being used that sends the AT command set to the modem.

1. Connect the AC Adapter to the UltraLite.

2. Connect the UltraLite modem cable between the LINE socket on the UltraLite and the telephone. Optionally, the telephone cord and the TEL port can be connected.

Note: Do not use the cords or sockets between the telephone unit and the handset. The connectors are deceptively compatible but don't provide the proper connection. The only exception is if the self-contained hand-set telephone is a wall or desk mounted cradle (i.e. contains no electronics).

3. Start the modem program and select the COM2 as the modem port.
4. Determine if the telephone service is tone (multi-frequency keying) or dial pulse (rotary). Use a "T" for Tone and a "P" for Pulse following the ATDT command (see step 7).
5. Determine if any special access codes are needed to obtain a connection, such as dialing an "8" or "9" to get an outside line. A comma placed in the dialing string inserts a pause to wait for the dial tone of the outside line. One comma causes a two second delay.

Example: AT DT 9,1-XXX-XXX-XXXX

"X" represents an arbitrary number.

6. If the user is planning to place credit card calls or use a service such as MCI or Sprint that requires special identifier codes before making the connection, it might be easier to dial the call manually, then pick up the line with the UltraLite.

An alternative is to set the dialing string with commas to pause for the various tones. The S8 register of the modem controls the length of the pause. To set the pause longer than 2 seconds, type:

AT S8 = n (n being the number of seconds for the pause)

Consult the communications software manual for help.

7. Enter the number that is to be dialed.

AT DT 1-XXX-XXX-XXXX

"X" represents an arbitrary number.

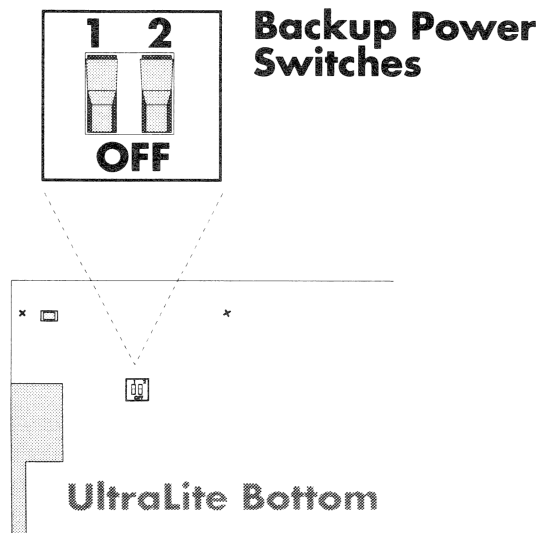
The user will hear the number dialing, the remote ring and answer, and finally, the carrier tone of the two modems before the greeting of the remote system is seen on the screen.

2.2.4 Charging the System Battery and NiCd Backup Battery

Before using the UltraLite and thereafter, the batteries need to be charged. Both the System Battery (Molicel) and the NiCd Backup Battery recharge at the same time.

1. Make sure both of the BACKUP POWER switches on the bottom of the UltraLite are set to ON.

Note: Do not use a pencil to remove the protective cover or to set the switches, as graphite may damage the switches.



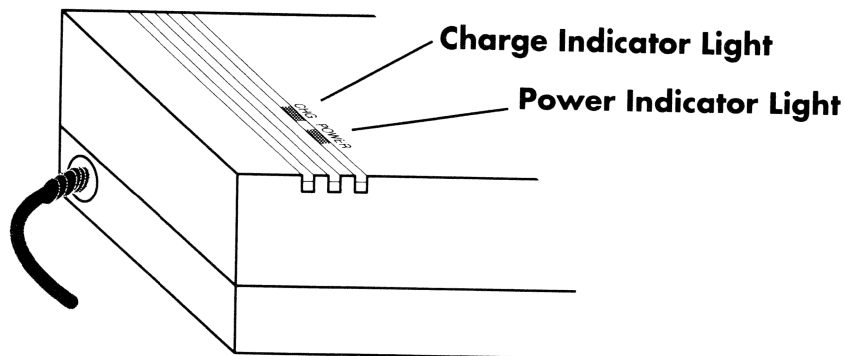
2. Check to make sure the computer is turned OFF.
3. Plug the AC Adapter into the UltraLite first, then into an AC wall outlet.
4. The CHG and POWER indicators on the AC Adapter are ON when the batteries are being charged.

Note: The CHG indicator is only used with the Molice battery. It is only ON while the Molice is charging. It is not ON when the NiCd battery needs recharging.

5. When the LOW BATTERY indicator (on the UltraLite) and the CHG indicator turn OFF, charging is completed. The initial charge takes approximately 16 hours, subsequent recharging time requires 7 to 10 hours, depending on the state of the batteries.

Note: The UltraLite can be in operation when the batteries are recharging.

6. When the batteries are fully charged, disconnect the AC Adapter from the wall first, then from the UltraLite. Turn ON the UltraLite. If the LOW BATTERY indicator turns ON, continue recharging the batteries.



Notes on Battery Operation

The UltraLite has two discrete batteries, a System Battery (Molice) and a NiCd Backup Battery. The System Battery provides operating power for an average of two hours, depending on the application. The NiCd Backup Battery maintains the content of the Silicon Hard Disk for approximately five to seven days between charges.

When the LOW BATTERY indicator turns ON, the UltraLite should be immediately turned OFF and the AC Adapter should be attached before further use. The UltraLite should be recharged until the LOW BATTERY and CHG indicators turn OFF.

If the UltraLite is left uncharged for more than five to seven days, the contents of the Silicon Hard Disk may be lost. If the user plans to be away from the UltraLite for more than five to seven days, the AC Adapter should be left plugged into the unit.

If the UltraLite will not be used for an extended period of time, the NiCd Backup Battery should be disabled by setting the BACKUP POWER switches (located on the bottom of the unit) to OFF.

The AC Adapter cannot overcharge the batteries. If the UltraLite is needed to be used within a day or two of recharging, the AC Adapter should remain plugged in.

2.3. System Software

2.3.1 LAP-LINK

LAP-LINK is used to transfer files between the UltraLite and another computer. To use LAP-LINK, the following is required:

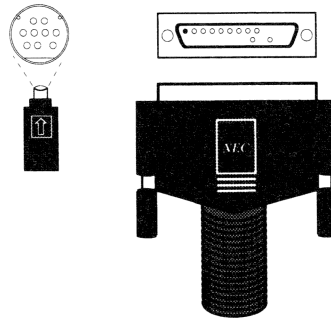
- UltraLite
- UltraLite Null Modem Cable (Serial Cable and Null Modem Adapter)
- Another PC with a serial port
- The 5.25" and/or 3.5" LAP-LINK diskettes
- Additional cable connectors as required by the other computer.

When not otherwise specified, the local computer is the UltraLite and the remote computer is the other PC.

For a complete description of LAP-LINK, refer to the "Comprehensive User Guide".

To Copy a File Using LAP-LINK

1. With both computers turned OFF, connect the UltraLite null modem cable between the UltraLite RS-232C port and the serial port on the remote PC, XT, or PS/2 computer. If the remote computer is an AT, a 25-pin female to 9-pin female adapter may be needed.



2. Turn both computers ON.

3. Put a LAP-LINK diskette into drive A of the remote computer and copy the "LL.EXE" file onto the drive and subdirectory (if any) from which files are to be copied.

Example: If the LAP-LINK program is to reside on drive C, in the subdirectory UTIL, at the command line prompt, type:

COPY A:LL.EXE C:\UTIL

4. Run the program on the remote computer by typing "LL" from drive C, directory UTIL (using the above example).

If LAP-LINK is in the UTIL subdirectory and the user wishes to run it from another directory, enter the command `PATH \UTIL` in the AUTOEXEC.BAT file. This informs the remote computer to look in the UTIL directory. Reboot the remote system.

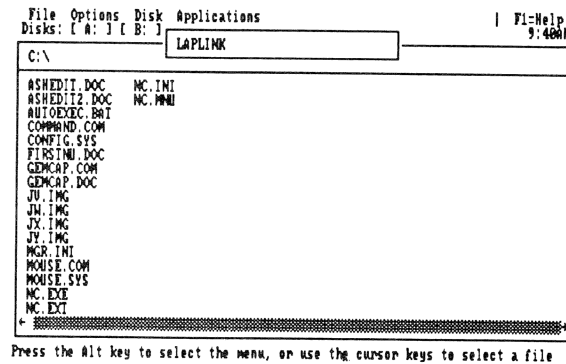
Complete instructions on installing and running LAP-LINK are found in the UltraLite Comprehensive User's Manual.

5. Run the program on the UltraLite by selecting LAP-LINK from the Applications Menu in MS-DOS Manager.

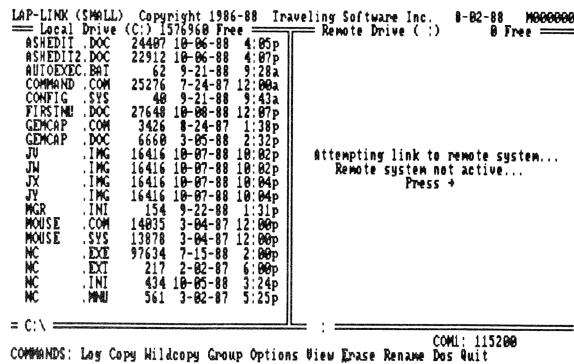
Press ALT

PRESS "A"

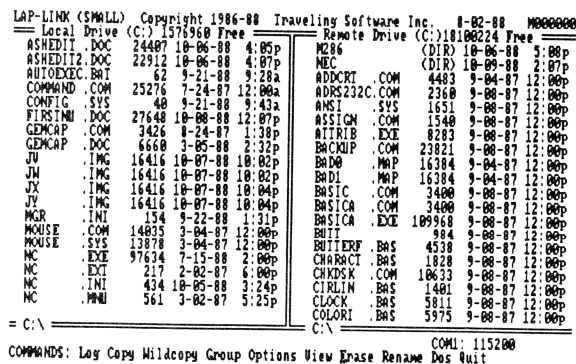
Press ENTER to select LAP-LINK



6. The RIGHT ARROW keys may be used on one or both of the computers to establish communications.



7. On the screen of both computers are the contents of the local drive in the lefthand window and the contents of the remote drive in the righthand window.



8. From the UltraLite, use the RIGHT ARROW key to move the highlighted bar to the remote window, and the DOWN ARROW key to move the highlight to the file which is to be copied from the remote computer.

```
LAP-LINK (SMALL) Copyright 1986-88 Traveling Software Inc. 8-82-88 M000000
== Local Drive (C:) 1576960 Free == Remote Drive (C:) 18100224 Free ==
ASHED11.DOC 24487 10-06-88 4:05p MC .INI 184 10-03-88 3:48p
ASHED12.DOC 22912 10-06-88 4:07p MC .MENU 247 5-15-86 1:00p
AUTOEXEC.BAT 62 9-21-88 9:28a PRINT.COM 8665 9-08-87 12:00p
COMMAND.COM 25276 7-24-87 12:00a RECOVER.COM 4554 9-08-87 12:00p
CONFIG.SYS 40 9-21-88 9:43a REPLACE.EXE 5157 9-08-87 12:00p
FIRSTMU.DOC 27648 10-08-88 12:07p RESTORE.COM 22447 9-08-87 12:00p
GENCRP.COM 3426 8-24-87 1:38p ROMWER.COM 911 9-08-87 12:00p
GENCRP.DOC 6668 3-05-88 2:32p SEAGULL.BAS 1275 9-08-87 12:00p
JN .IMG 16416 10-07-88 10:02p SELECT.COM 13441 9-08-87 12:00p
JY .IMG 16416 10-07-88 10:02p SETUP.EXE 19306 9-04-87 12:00p
JY .IMG 16416 10-07-88 10:04p SHARE.EXE 8675 9-08-87 12:00p
JY .IMG 16416 10-07-88 10:04p SORT.EXE 1921 9-08-87 12:00p
MGR .INI 154 9-22-88 1:31p SUBST.EXE 9981 9-08-87 12:00p
MOUSE.COM 14035 3-04-87 12:00p SYS.COM 4983 9-08-87 12:00p
MOUSE.SYS 13878 3-04-87 12:00p TREE.COM 8963 9-08-87 12:00p
MC .EXE 97634 7-15-88 2:00p UMG.C.COM 2743 9-08-87 12:00p
MC .EXT 217 2-02-87 6:00p WDISK.SYS 3341 9-08-87 12:00p
MC .INI 434 10-05-88 3:24p XCOPY.EXE 6747 9-08-87 12:00p
MC .MENU 561 3-02-87 5:25p XDISK.SYS 4740 9-08-87 12:00p
XFORMAT.COM 7384 9-08-87 12:00p
C:\
C:\
COM1: 115200
COMMANDS: Log Copy Wildcopy Group Options View Erase Rename Dos Quit
```

9. Press "C", or use the SPACEBAR to move the highlight in the command line to COPY and press ENTER. The selected file is copied from the remote computer to the UltraLite.

```
Receiving SEAGULL.BAS
10 blocks
10
```

```
1 File(s) Copied 100% Error Free.
Copy complete. Press any key to continue...
```

2.3.2 MS-DOS Manager

Overview of Menus

MS-DOS Manager provides pull-down menus that make it easy to use the most common MS-DOS commands. This sections:

- Describes each of the four menus in the menu bar at the top of the screen
- Shows which menu to use depending on the operation which is to be performed
- Explains concepts that should be known before executing commands

The MS-DOS Manager menu bar contains four menus: Files, Options, Disk, and Applications. The name of each menu indicates the type of commands in the menu. When a menu is selected, the commands for that menu appear in a small screen called a pull-down menu.

The File Menu

With the File Menu, you can organize and store work files and exit MS-DOS Manager.

From the File Menu, the following commands can be accessed:

- RUN
- COPY
- DELETE
- MOVE
- RENAME
- LOCATE
- or get information about a file located on any of the file devices connected to the UltraLite.

To copy files to or from another computer, use the LAP-LINK program. To use additional MS-DOS commands, exit MS-DOS Manager. Some of the File commands can also be used to work with directories.

The Options Menu

The Options Menu allows you to change the way the screen and files appear and the way copy and delete operations are performed.

The Options Menu is used to set the date and time on the computer or add a second window to the screen. This menu also saves any changes made to the options or to the applications list.

The Disk Menu

The Disk Menu allows you to create or change directories, copy or get information about a disk, or format a disk.

The Applications Menu

The Applications Menu starts applications directly from MS-DOS Manager. Tedious jobs like setting up a serial printer using the MODE command can be automated from the Applications Menu. Modify Options on the Options Menu allows you to add to, delete from, and edit the Applications Menu.

The following table shows which menu to use for specific operations.

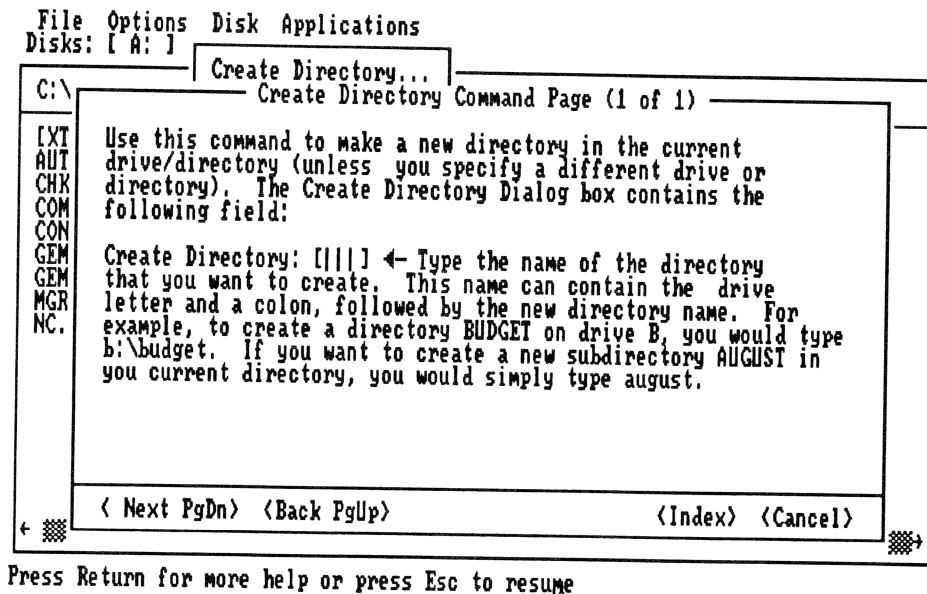
Selecting the Right Menu

What You Want to Do	Which Menu to Use
Work with your files:	File menu
Copy	
Delete	
Get information about a file's size in bytes, and the date and time you created it or last updated it	
Locate	
Move	
Rename	
Run (executable files)	
Type (the contents of a file)	
Work with your directories:	File or Disk menu
Change directories	Disk menu
Copy	File menu
Create	Disk menu
Delete	File menu
Locate	File menu
Rename	File menu
Install or modify your applications	Options menu
Split your screen	Options menu
Specify how files are shown:	Options menu
Whether files should be listed alphabetically, by date, by extension, or by size	
Which files should be listed	
Whether files should be listed in short or long format	
Safeguard against overwriting by mistake	Options menu
Safeguard against deleting by mistake	Options menu
Verify copy operation automatically	Options menu
Specify certain Help options	Options menu
Set the date and time	Options menu
Exit to MS-DOS	File menu

Getting Help

Pressing the **F1** function key gives help information for the operation being performed. MS-DOS Manager responds by displaying a help screen.

For Example, if the Create Directory command was being used and the F1 function key was pressed, MS-DOS Manager would respond with the following screen:



Accelerator Keys

By pressing the **ALT** key or looking at any of the pull-down menus, it can be seen that one letter in the name of each menu, command, or application is highlighted. The corresponding key on the keyboard is called the accelerator key. By pressing the accelerator key, that menu or command is selected.

A selection can be made from a menu or a pull-down menu by pressing the accelerator key.

Dialog Boxes

If MS-DOS Manager needs to know more information about a selected command or application, a dialog box appears on the screen.

A Dialog Box asks the user to do one of the following:

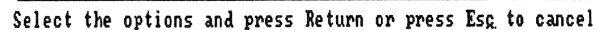
- Type in information
- Select one of several options from a list
- Set or clear an "on/off" option
- Confirm a command

A Dialog Box may ask the user to type in the name of a file, directory, drive, or path.

File Options Disk Applications
Disks: [A:] [B:] [C:] [D:]



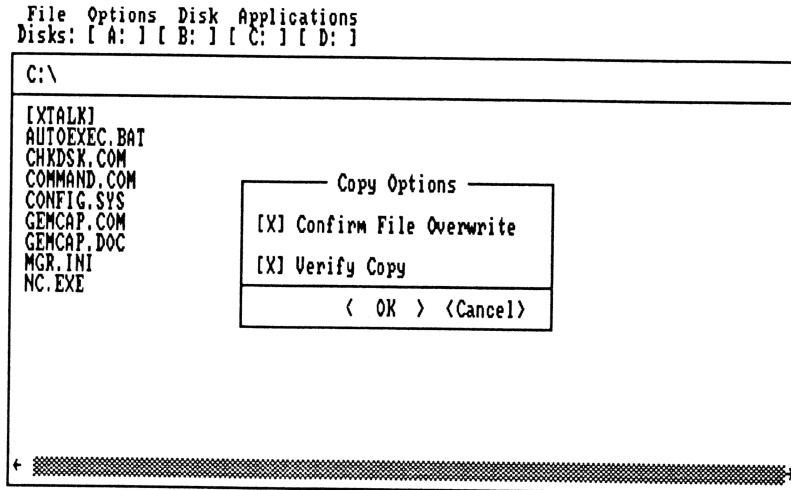
For example, the File View Options Dialog Box asks the user to choose the format the files should be listed in:



Set or Clear an "ON/OFF" Option

This type of Dialog Box gives a yes/no choice on one or more options.

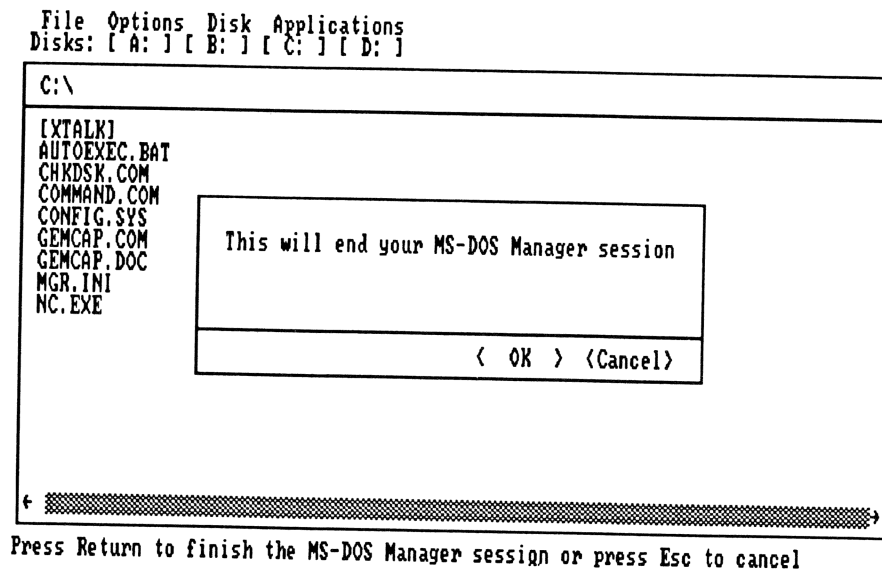
For example, the Copy Options Dialog Box lets the user set or clear the Confirm File Overwrite Option:



Confirm a Command

This type of Dialog Box asks the user to confirm a command.

For example, the MS-DOS Manager Dialog Box asks the user to confirm whether or not you want to exit to the MS-DOS Manager command line:



Executing Commands

To execute any of the MS-DOS Manager commands explained in the following menus, the user may need to perform up to four steps:

1. Select a file or directory.
2. Select a menu.
3. Choose a command or application from the pull-down menu.
4. Complete the dialog box (if necessary).

Step 1: Select a File or Directory

Step 1 is used if a command that operates on files and directories (COPY, DELETE, or MOVE) is used. Otherwise, proceed to Step 2.

1. If the current directory does not contain the file or directory wanted, change to the directory where it is located.

To change directories, use the CHANGE DIRECTORY command in the Disk Menu.

2. Select the desired file or directory by using the ARROW keys to move the highlighted bar over the file or directory name.

Keyboard Shortcut

Move the highlighted bar over the desired file or directory by pressing the first letter of the file or directory name.

Pressing the letter key once, the highlighted bar moves to the first filename that begins with that letter. To continue moving the bar down, press the key again or use the ARROW keys.

Selecting Multiple Files

To select more than one file to move, copy, or delete:

1. Using the ARROW keys, move the highlight to the first desired file.
2. Hold down the SHIFT key and press the UP or DOWN ARROW key to select a file or files above or below the highlighted one.
3. Choose the desired command that is to be carried out on all of the selected files from the File Menu.
4. Press ENTER to execute the command.

To select multiple files not listed one right after the other:

1. Use the ARROW keys to highlight the first file.
2. Hold down the SHIFT key while:
 - Using the ARROW keys to select the files listed right after each other.
 - Pressing the SPACEBAR to remove the highlight from a file that is not to be selected.
 - Using the ARROW keys to move to the next desired file.
 - Pressing the SPACEBAR again to resume selecting files.

The SPACEBAR acts as a toggle switch, alternating the highlight ON and OFF.

Step 2: Select a Menu

This step "pulls down" one of the four MS-DOS Manager Menus on the screen.

1. Press **ALT**.
2. Highlight the desired menu bar by using the **RIGHT** and **LEFT ARROW** keys.
3. Press **ENTER**.

The pull-down menu appears on the screen.

Keyboard Shortcut

1. Press **ALT**.

The menu bar is activated.

2. Press the first letter of the desired menu.

The pull-down menu appears on the screen.

Step 3: Choose a Command

This step informs the MS-DOS Manager which command or application is to be used.

1. Highlight the desired selection in the pull-down menu by using the **UP** and **DOWN ARROW** keys.
2. Press **ENTER**.

OR

Press the accelerator key for the command (or application) desired.

Cancelling a Command

To cancel a command and return to the MS-DOS Manager, press **ESC**.

After a choice is made from the pull-down menu, the MS-DOS Manager does one of the following:

- Executes the command selected.
- Starts the application selected.
- Displays a dialog box asking for more information.

Step 4: Complete the Dialog Box

When a Dialog Box appears, MS-DOS Manager needs more information from the user; select one of several options from a list, set or clear an **ON/OFF** option, or confirm a command.

It may be necessary to move between fields to complete a Dialog Box.

A Dialog Box can have several parts, or fields. To move from one field to another, one of the following options is used:

Moving between fields

To move	Do this
To the next field	Press TAB.
To the previous field	Press SHIFT and TAB at the same time.
To any field	Press ALT. One letter in each field of the dialog box is highlighted; type the highlighted letter in the field you want to move to.

Entering Information

There are four ways to enter information in a Dialog Box:

1. Type in the text.
2. Select one of several options in a list.
3. Set or clear an ON/OFF option.
4. Confirm a command.

Typing Text in a Dialog Box

The keyboard is used to type text in a Dialog Box, such as a filename.

Selecting One of Several Options From a List

In a Dialog Box showing a list of options that can be set or cleared, the currently selected option shows an asterisk (*). To choose a different option in a Dialog Box:

1. Position the highlighted bar over the desired option.

Use the UP and DOWN ARROW keys, or if the option has a highlighted letter, just type that letter.

2. Set or clear an option by pressing the **SPACEBAR**.

Setting or Clearing an ON/OFF Option

In a Dialog Box showing options that can be turned ON or OFF, if the option is selected, an "X" appears in the brackets next to the option.

To either set or clear an option:

1. TAB to the desired option. Press the **SPACEBAR**.
2. If the brackets are empty, an "X" appears and the option is set. If there is already an "X" in the brackets, the "X" disappears and the option is cleared.

Confirming a Command

When MS-DOS Manager displays a Dialog Box asking to confirm a command, the user can either execute or cancel it at that point by executing or cancelling the Dialog Box.

To execute a Dialog Box, press **ENTER**.

To cancel a Dialog Box, TAB to the cancel field and press **ENTER** or press **ESC**.

To Scroll Through a List of Files and Directories

The scroll bar (at the bottom or to the right of the screen) contains a highlighted rectangular box that shows where the user is in the list of files or directories as they scroll. This box is the Scroll Bar Indicator. It shows the relative position in the directory. A mouse can be used to move the Scroll Bar, although the mouse is not recommended for use with the UltraLite.

See the table below for ways to view files on the UltraLite.

To scroll through a list of files

To move	Do this
Up or down one line at a time.	Use the arrow keys.
Up or down one screen at a time	Use the PG UP and PG DN keys
To the beginning or end of the file list	Use the HOME and END keys.
Moving Around in Your Directory System	You can move around in the multilevel system by starting at the root and traveling through directories and subdirectories to find a particular file. Conversely, you can start anywhere within the file system and travel toward the root.

Changing Directories

There are three ways to change the current directory:

1. Use the Change Directory in the Disk Menu.
2. Select the MS-DOS or EXIT commands (from the File Menu) to get to the MS-Dos system prompt. Type "CD" and the pathname at the system prompt.
3. Use the ARROW keys.

If the disk in the floppy drive is changed, MS-DOS Manager must be informed. To do this, hold down the CONTROL key and press the key corresponding to the drive letter. The MS-DOS Manager displays the files and directories on the new floppy disk.

To change to	Do this
Subdirectory of Current Directory	Use the arrow keys to highlight the name of a subdirectory listed on the screen. Press ENTER.
Parent Directory of Current Directory	From the screen showing the list of files in your current directory, press the BACKSPACE key.
Last Current Directory on Another Drive	Hold down the CTRL key and press the drive letter of the other drive.

The following table is a summary of the functions performed in MS-DOS Manager by specific keys or key combinations.

Important keys

Key	Function
ARROW Keys	(Cursor or Directional Keys) used to move around on the screen one space at a time.
SPACEBAR	used as a toggle switch to turn highlight on or off while selecting multiple files or to set or clear options in dialog boxes.
TAB	used to move around in jumps. If you hold down the SHIFT key while pressing the TAB key, cursor jumps back.
INSERT	inserts the text held in the buffer in the place indicated by the cursor.
DELETE	removes highlighted text to a holding buffer. Text is held only until the next use of the DELETE key.
HOME	moves cursor to the start of the line. Hold down the Fn key while pressing the HOME key to activate.
END	moves the cursor to the end of the line. Hold down the Fn key while pressing the END key to activate.
ENTER	used to start carrying out a command.
ESC	(Escape) used to cancel something.
ALT	(Alternate) used to alter the function of a key. In MS-DOS Manager, pressing ALT highlights a key letter in the menu to allow selection of a command.
CTRL	(Control) also alters the function of a key. To change drives quickly, hold down the CTRL key and press letter of desired drive.
Fn	(Function) used to activate the functions printed in red on certain keys (HOME, END, PAGE UP, PAGE DOWN, etc.).
Function Keys	(F1, F2, F3, ..., F12) Each key has an associated function used as a shortcut to enter DOS commands. See sections above for more information.

2.3.3 SETUP

SETUP is a utility built into the UltraLite. Its purpose is to allow the user to alter certain parameters, such as the processor's clock speed, how colors are displayed on the LCD screen, and the drive sequence for booting the operating system.

The UltraLite is preset with most of the common settings, they may not need to be altered. However, certain application programs may require a slower clock speed or different characteristics.

Starting SETUP

SETUP is loaded automatically from the AUTOEXEC.BAT file when the UltraLite is turned ON or rebooted. To activate it, a special "hot key" combination (**CTRL-ALT-S**) must be pressed.

To activate SETUP:

Press the **CTRL-ALT-S** keys simultaneously. The following screen appears:

```
===== SETUP 1.00 ===== SETUP MAIN SCREEN =====
<BOOT FROM B:;>      Yes      No
<CLOCK SPEED>        High     Low
<SCREEN>
  Color mode          Emulation  Contrast
  Intensity mode      Font       Contrast
  Default Font        Doubledot  Singledot
  Backlight           Auto(5min)  High      Low
  Palette             [ 0 1 3 4 2 5 4 6 0 1 3 4 2 5 4 6 ] (Intensity level)

                      **** Color Pattern ****

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F
20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F
30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F
40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F
50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F
60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E 6F
70 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F
```

The current settings are displayed within the box of double lines. Directly beneath the box is the Command Line, a Help Line which explains each command, and a Prompt Line which reminds the user of the current options.

To Select a Command

1. Either press the first letter of the command, or use the **SPACEBAR** or **BACKSPACE** keys to highlight the specific commands. As each command is highlighted, the Help Menu offers a brief description of it.
2. Press **ENTER** to select a highlighted command.

SETUP Command Descriptions

BOOT

The BOOT command changes the MS-DOS boot sequence, allowing the UltraLite to boot either from drive B, the RAM Card, or drive C (Silicon Hard Disk). In any case, if the external drive A is connected and it contains an MS-DOS System Diskette, the UltraLite will always boot first from drive A.

In most cases, the users wants the system to boot from drive C (Silicon Hard Disk). The system can only boot from drive B if the 256 KB RAM Card is present, and it contains the MS-DOS system files. If no card is inserted, the UltraLite will attempt to boot from drive C.

30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F

Boot from Drive B: ? Yes No
Select "No" to set the boot sequence A:->C:->D:
Select "Yes" or "No" and press ENTER. ..

Note: Do not change this setting to "Yes" unless the Memory Card Slot contains a RAM Card with MS-DOS system files installed on it.

Recovering From Boot Error

If an attempt to boot from drive B is made, and the Memory Card Slot contains a ROM Card or a RAM Card without system files, the following error message appears:

"Non-System Disk or Disk Error.

Replace and strike any key when ready."

If a RAM Card with MS-DOS system files is available, turn the UltraLite OFF and replace the Memory Card. Otherwise, the UltraLite will have to be reset and return all of the parameters to their default settings by simultaneously pressing CTRL-ALT-DEL.

CLOCK

The CLOCK command toggles CPU speeds. High speed is 9.83 MHz and low speed is 4.92 MHz. Very few applications require the lower clock speed anymore, some older applications might.

Note: If the clock speed is changed from the SETUP Menu, keep in mind that the CONFIG SW 1 overrides this setting upon rebooting or power-up. For example, to set the clock permanently to the lower speed, CONFIG SW 1 must always be set to ON.

10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F
20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F
30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F

CPU clock speed: High Low

Press "H" for High or "L" for Low in order to change the clock speed.

Note: To toggle between clock speeds without entering the SETUP Program, press CTRL-ALT-H to select the high speed or CTRL-ALT-L to select the low speed at any time.

EXIT

The EXIT command exits from the SETUP program, and saves the changes made. Before exiting, a question concerning leaving SETUP and saving the changes is asked.

Press "E" for EXIT.

QUIT

The QUIT command exits from the SETUP program without saving the changes. Parameters set before the current session remain in effect. Before quitting, a question concerning quitting SETUP without saving the changes is asked.

Press "Q" for QUIT.

SCREEN

The SCREEN commands affect the way in which graphics, text, and colors are displayed on the UltraLite screen. The SCREEN command brings up a submenu with six submenu commands:

```

===== SETUP 1.00 ===== SCREEN =====
<COLOR MODE>      Emulation      Contrast
<INTENSITY MODE>  Font           Contrast
<DEFAULT FONT>    Doubledot      Singledot
<BACKLIGHT>       Auto(5min)     High           Low
<PALETTE>         [ 0 1 3 4 2 5 4 6 0 1 3 4 2 5 4 6 ] (Intensity level)

                **** Color Pattern ****

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F
20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F
30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F
40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F
50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F
60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E 6F
70 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F

```

The current choices for screen display characteristics are displayed within the box of double lines.

During any application, simultaneously pressing CTRL-ALT-S, goes into SETUP. Screen parameters can be changed and then resuming to the current application allows the new screen parameters to be seen.

Note: SETUP is a TSR program (Terminate and Stay Resident). Not all applications work with TSR programs and some TSR programs do not work with each other. Test the CTRL-ALT-S combination with an application. If the application "hangs-up" when SETUP tries to pop up, reboot the system.

SCREEN Submenu Commands

BACKLIGHT

The BACKLIGHT command effects the brightness of the screen and also the time the UltraLite can operate using the built-in battery.

Press "B" for BACKLIGHT.

Auto is the default setting, it allows the screen to operate at full backlighting while in use and switches automatically to the "energy-saving" low backlighting after five minutes of keyboard inactivity. Pressing any key brings the screen back to full brightness.

High setting keeps the screen at full brightness all the time. Best used when operating from the AC Adapter.

Low setting keeps the screen at a constant low brightness, for maximum energy savings. Using this setting can extend battery life.

SETUP 1.00			SCREEN
<COLOR MODE>	Emulation	Contrast	
<INTENSITY MODE>	Font	Contrast	
<DEFAULT FONT>	Doubledot	Singledot	
<BACKLIGHT>	Auto(5min)	High	Low

To select Auto, High, or Low, press the first letter (A, H, or L).

COLOR

The COLOR command emulates a color screen (CGA resolution) in order to work with the greatest array of MS-DOS software (but can't actually display colors). The COLOR command allows the selection of Emulation or Contrast mode.

Press "C" for COLOR.

Emulation

In the Emulation mode, pixels are either ON or OFF, and are at a uniform brightness level. This means the colors in the color software are displayed with simple alternatives, such as reverse video, single dot characters, white background, and bold. Emulation is sufficient when working with text and black/white graphics.

Contrast

In the Contrast mode, colors are individually mapped into different intensities or "grey" shades. Using the PALETTE command, a level from 0 to 6 can be assigned to any of 16 colors. If the application demands a realistic representation of different colors, the Contrast mode should be used.

To select the Emulation or Contrast mode, press the first letter of the mode (E or C).

Checking the Software

Many software publishers now recognize the wide-spread use of laptop computers, and their software may have a laptop or black/white screen mode. Before experimenting with the SETUP SCREEN commands to improve legibility, check the software manual. Also the term "monochrome" usually refers to an MDA or a Hercules-compatible controller which drives a monochrome monitor and does not pertain to the UltraLite.

EXIT

The EXIT command goes back to the original SETUP Menu, a level above the Screen Menu.

Note: The changes selected will become permanent only when exiting from SETUP.

Press "E" for EXIT.

FONT

The FONT command allows the UltraLite to display standard characters in double-dot or single-dot fonts.

Press "F" for FONT.

Double-Dot

Characters are composed of lines of two pixels in width. Text in Double-Dot will look darker on the screen than in Single-Dot.

Single-Dot

Characters are composed of lines of one pixel in width.

To select Double-Dot or Single-Dot, press the first letter of the desired font (**D** or **S**).

INTENSITY

The INTENSITY command controls how to display emphasized and colored text characters.

Press "I" for INTENSITY.

FONT allows the alternative font, Double-Dot or Single-Dot, to represent an emphasized character.

Contrast is equivalent to "Contrast" in the COLOR command. All emphasized characters are assigned shades of darkness, or contrast, and the font remains unchanged. The darkness level can be changed with the PALETTE command.

To select Font or Contrast, press the first letter of the desired INTENSITY command (**F** or **C**).

PALETTE

The PALETTE command allows the UltraLite to emulate a CGA color monitor, which may be useful when displaying business graphics.

For example, in graphics which use a number of colors that are not easily distinguishable on the UltraLite display, the PALETTE command can be used to increase the contrast among the colors.

Note: The PALETTE command cannot be activated when the Emulation Color mode is selected.

The PALETTE command allows the intensity level to be assigned between 0 to 6, 0 being the darkest and 6 being the lightest, to each of 16 colors, numbered hexidecimally 0 to F.

SETUP 1.00										SCREEN									
<COLOR MODE>										Emulation									
<INTENSITY MODE>										Font									
<DEFAULT FONT>										Doubledot									
<BACKLIGHT>										Auto(5min)									
										Contrast									
										Contrast									
										Singledot									
										High									
										Low									
Palette number										: 0 1 2 3 4 5 6 7 8 9 A B C D E F									
Intensity(0..6)										: 0 1 3 4 2 5 4 6 0 1 3 4 2 5 4 6 EXIT									

The Palette Number line never changes and serves as a reference to the Intensity line, which has a user assigned value of 0 to 6, 0 being the darkest and 6 being the lightest.

The following table shows the which CGA colors correspond to which palette number and their default intensity.

Palette Color Intensity Table

Palette #	CGA Color	Intensity (default)
0	black	0
1	blue	1
2	green	3
3	cyan	4
4	red	2
5	magenta	5
6	brown	4
7	light gray	6
8	dark gray	0
9	light blue	1
A	light green	3
B	light cyan	4
C	light red	2
D	light magenta	5
E	light yellow	4
F	white	6

Adjusting Intensity Level

1. Press **"P"** for Palette.
2. Use the **SPACEBAR** and **BACKSPACE** keys to move the highlight bar from one palette number to another.
3. The **ARROW** keys are used to raise or lower the highlighted value between 0 and 6.
4. After adjusting the contrast, press **"E"**, or move the highlighted bar to Exit and press **ENTER**.

Color Patterns

The Color Pattern table demonstrates how two "colors" will appear together. When any values in the Palette/Intensity Line are changed, the result is in the Color Pattern table. The left digit indicates the background color and the right digit indicates the foreground color.

**** Color Pattern ****																															
00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F
20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F	70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F

2.3.4 MS-DOS Manager 3.3

Initial AUTOEXEC.BAT file

The initial AUTOEXEC.BAT file is as follows:

```
PATH D:\
SETUP
SET COMSPEC=D:\COMMAND.COM
MANAGER C:MGR.INI
```

Notes:

PATH D: - Searches the D drive and the current directory for all executable files.

SETUP - Loads the TSR program used to set the processor speed, change the backlight brightness, and other features. SETUP is activated by hitting the ALT-CTRL-S keys.

SET COMSPEC=D:\COMMAND.COM - Specifies the path to reload COMMAND.COM when necessary.

MANAGER C:MGR.INI - Starts MS-DOS Manager every time the UltraLite is powered up or reset. If MS-DOS Manager was used before, the parameters are saved in MGR.INI.

UltraLite DOS vs MS-DOS 3.3

Several of the MS-DOS 3.3 files are not used by the UltraLite. Most of these files refer to devices not supported by the UltraLite. Also, any commands, such as DISKCOMP, are not used by the UltraLite because the "disk drives" are not similar devices.

All of the normal internal commands (DIR, CD, TYPE, etc.) are available. The UltraLite has some files not found in MS-DOS 3.3. These files are located on the D drive (System ROM) and cannot be deleted.

MS-DOS files not found in the UltraLite

APPEND.EXE	FIND.EXE	REPLACE.EXE
ATTRIB.EXE	GRAFTABL.COM	SELECT.COM
COMP.COM	JOIN.EXE	SHARE.EXE
COUNTRY.SYS	KEYB.COM	SORT.EXE
DEBUG.COM	KEYBOARD.SYS	SUBST.EXE
DISKCOMP.COM	MORE.COM	TREE.COM
DISPLAY.SYS	NLSFUNC.EXE	VDISK.SYS
DRIVER.SYS	PRINT.COM	EGA.CPI
FASTOPEN.EXE	PRINTER.SYS	LCD.CPI
FDISK.COM	RECOVER.COM	4201.CPI
		5202.CPI

The following table lists all of the MS-DOS files and programs available on the UltraLite. These files are on the system ROM and cannot be deleted or altered.

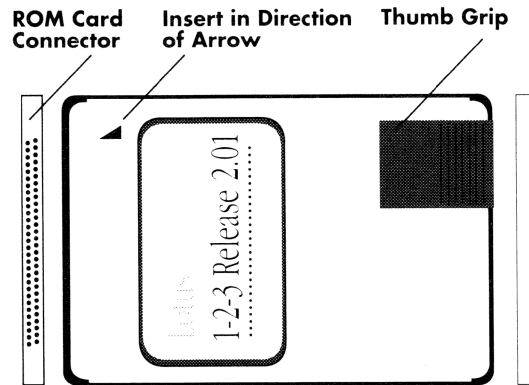
UltraLite MS-DOS files

File name	Function or task
ANSI.SYS	standard screen driver
ASSIGN	redirects disk drives
AUTO	* batch file for drive C
AUTOEXEC.BAT	* batch file for drive D
BACKUP.COM	standard backup utility
CHKDSK.COM	check disk status
COMMAND.COM	system file
CONFIG.SYS	* copied to drive C
DISKCOPY.COM	useful for backing up 3.5" diskettes
DSET.BAT	* installation file
EDLIN.COM	text editor
FORMAT.COM	formats 3.5" diskettes
GRAPHICS.COM	screen print
IDISK.COM	* similar to FDISK
LABEL.COM	display or alter volume label
LL.EXE	LAP-LINK file transfer program
MANAGER.EXE	MS-DOS Manager program
MANAGER.HLP	MS-DOS Manager help files
MANAGER.INI	* system file
MGR.INI	* copied to drive C
MODE.COM	redirects output
RESTORE.COM	used with BACKUP command
SETUP.EXE	* memory resident utility program
SYS.COM	system file
XCOPY.EXE	copies files by directories
DUMMY1	(hidden file)
DUMMY2	(hidden file)
IO	(hidden file)
MSDOS	(hidden file)

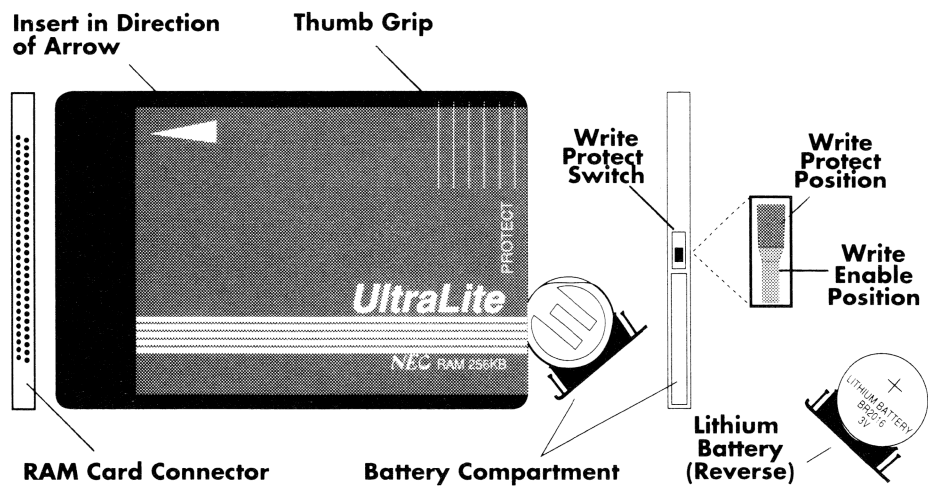
* = unique to UltraLite

2.4. ROM and RAM Cards

Many popular software programs are available from NEC on ROM cards. By far, a ROM card is the most convenient way to carry and install software in the UltraLite. Diskless software is always available and cannot be erased from memory.



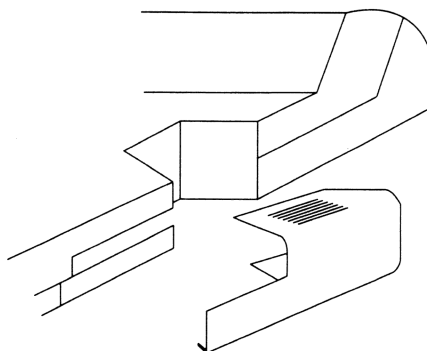
Another way to carry files without a disk drive is the 256 KB RAM Card. Software can be loaded onto the RAM Card. The RAM Card can also be used to temporarily backup the Silicon Hard Disk.



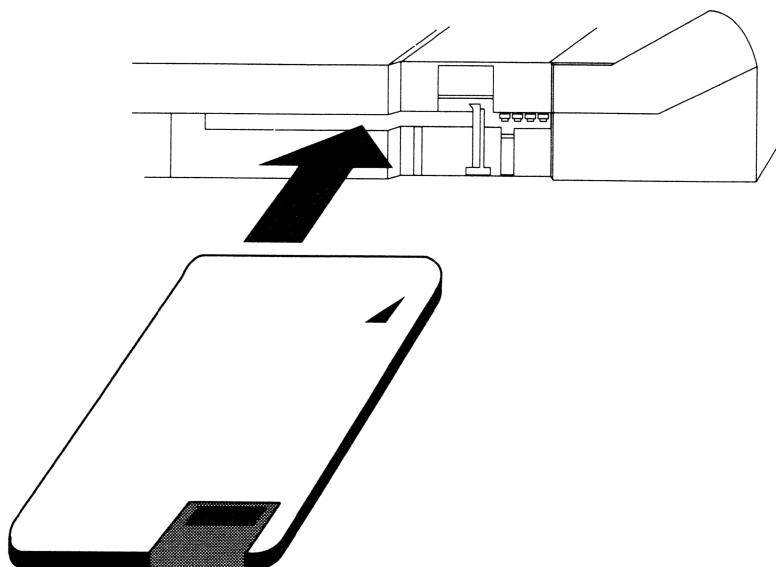
Inserting a ROM Card

When inserting a ROM Card, the UltraLite may be ON or OFF. The card is always inserted with the thumb grips to the right of the slot. This allows for easy removal of the card from the unit.

1. Remove the Card Slot Cover from the UltraLite by pulling gently.



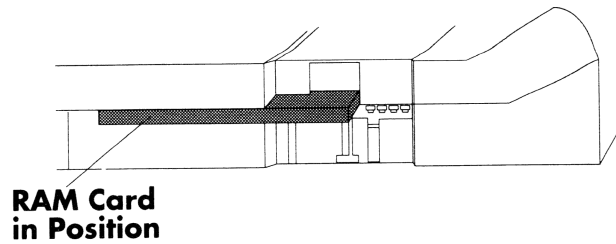
2. Carefully handle the ROM Card, avoiding touching the metal contacts. Insert the card into the slot until the connectors "catch".



3. From the MS-DOS command line, type **B:(Program Name)** to run the program. Or, install it in the Applications Menu of MS-DOS Manager, following the instructions in the MS-DOS Manager.

Inserting a RAM Card

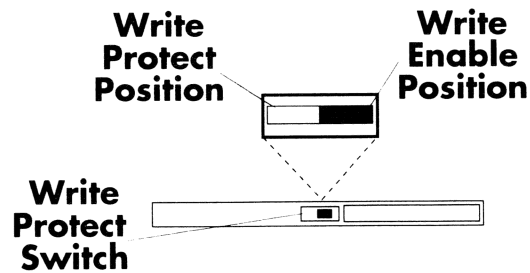
Follow the same steps as inserting the ROM Card.



Write-Protecting the RAM Card

Data or programs stored on a RAM Card can be protected by "write-protecting" it. The card will then be "read only", and new data cannot be written to the RAM Card.

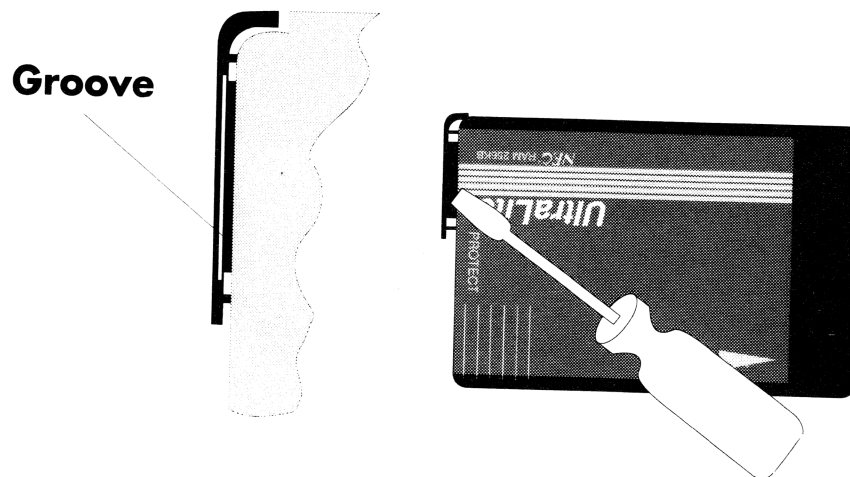
1. Removal of the RAM Card from the UltraLite is not necessary when write-protecting it.
2. Using a pen tip or small instrument, move the small white switch on the end of the card from the left to the right.



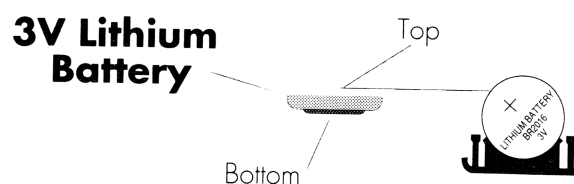
Replacing the RAM Card Battery.

The lithium battery in the RAM Card is guaranteed for six months, but may last longer. Always replace the lithium battery with the same or equivalent battery type.

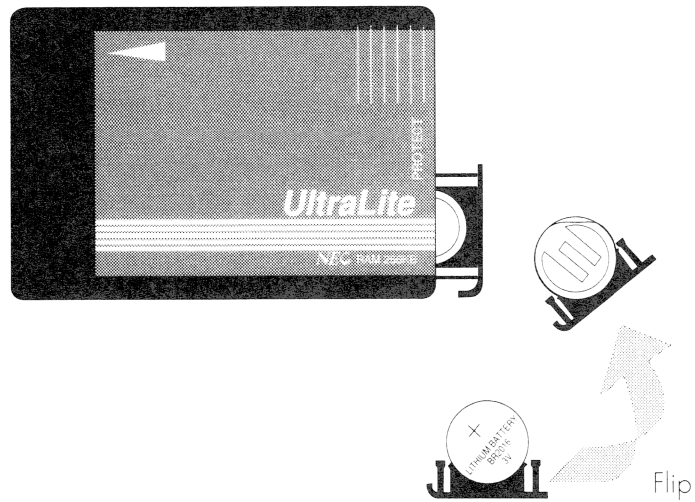
1. When replacing the battery, there is only 10 seconds to work with before data on the card is lost. Replacement should take approximately 2 or 3 seconds.
2. Turn OFF the computer and remove the RAM Card.
3. Using a small screwdriver, remove the battery case from the card.



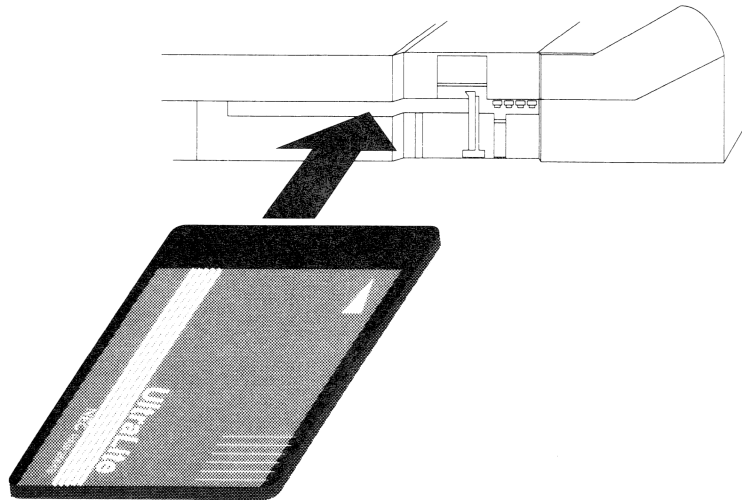
4. Place the new battery in the case with the top, or flat, side exposed and the rounded bottom side seated in the case.



5. Insert the case back into the card, making sure it is not upside down. (The rounded edge is to the outside.)



6. Insert the RAM Card into the card slot, keeping the thumb pads to the right.



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